As cancl.

--9. (Amended) The multi-carrier signal reception apparatus according to claim 8, wherein said memory means stores one of said real number portion and said imaginary number portion of said first information.--

REMARKS

Claims 1-9 remain in the application and have been amended hereby.

As will be noted from the Declaration, Applicant is a citizen and resident of Japan and this application originated there.

Accordingly, the amendments to the specification are made to place the application in idiomatic English, and the claims are amended to place them in better condition for examination.

An early and favorable examination on the merits is earnestly solicited.

Respectfully submitted,
COOPER & DUNHAM, LLP

Jay H. Maioli
Reg. No. 27,213

JHM/AVF/pmc

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE ABSTRACT OF THE DISCLOSURE

The Abstract of the Disclosure has been amended as follows:

--[In] A multi-carrier signal transmission apparatus and a multi-carrier signal receiving apparatus for transmitting first information necessary for [gaining synchronism of] synchronizing a transmission signal and second information [which is the other information] by determining a break of a single modulation unit with a simple structure and processing prior to Fourier transformation on [the] a side receiving [a] the signal transmitted as a multi-carrier signal, wherein a transmission symbol stream is expanded on a frequency axis. With a predetermined frequency position [(for example, 0 kHz)] as a reference[,] a symmetrical transmission symbol stream [symmetrical] is generated on the frequency axis and [then,] the symmetrical transmission symbol stream [symmetrical on the frequency axis] is Fourier-transformed and transmitted.--

IN THE CLAIMS

Claims 1-9 have been amended as follows:

--1. (Amended) A multi-carrier signal transmission apparatus for transmitting a signal in which first information necessary for [gaining synchronization of] synchronizing a

transmission signal is disposed at a predetermined interval in second information [which is the other information], said apparatus comprising:

data arrangement means for arranging said first information and said second information;

first modulation means for generating a transmission symbol stream by modulating data created by said data arrangement means;

symbol generating means for expanding said transmission symbol stream generated by said first modulation means on a frequency axis [so as] to generate [the] a symmetrical transmission symbol stream that is symmetrical on [the] said frequency axis; and

second modulation means for converting [the] said symmetrical transmission symbol stream [symmetrical on the frequency axis] generated [on] by said symbol generating means by performing reverse Fourier transformation.

--2. (Amended) The multi-carrier signal transmission apparatus according to claim 1, wherein said data arrangement means disposes said first information and said second information alternately.

--3. (Amended) The multi-carrier signal transmission apparatus according to claim 1, wherein [with] using a center

symbol at said reference frequency position of [the] said transmission symbol stream as [the] a center, said symbol generating means expands [respective] symbols of said transmission symbol stream other than [that] said center symbol symmetrically on [the] said frequency axis.

--4. (Amended) A multi-carrier signal reception apparatus for receiving a multi-carrier signal including first information necessary for [gaining synchronism of] synchronizing a transmission signal and second information, said apparatus comprising:

memory means for [memorizing any] storing one of a real number portion and [a] an imaginary number portion in said first information;

delay means for delaying a received symbol stream by a predetermined time period;

a filter [portion] for extracting said first information using [a] said reception symbol stream delayed by said delay means and a reception symbol stream that is not delayed;

a correlator for [gaining correlation between] correlating an output of said filter [portion] and [the] one of said first information of [the] said real number portion [or] and said imaginary number portion [memorized] stored in said memory means; and

determining means for detecting a synchronism depending

on a peak position of a correlation value of said correlator.

--5. (Amended) The multi-carrier signal reception apparatus according to claim 4, wherein when a processing time of a single unit for Fourier-transforming the multi-carrier signal is a single modulation time, [a] said predetermined time [to be delayed] period used by said delay means is set at 1/2 [a] said single modulation time.

--6. (Amended) A multi-carrier signal transmission apparatus for transmitting first information necessary for [gaining synchronism of] synchronizing a transmission signal and second information [which is the other information] as [the] a multi-carrier signal, said apparatus comprising:

[first] modulation means for selectively generating a first transmission symbol stream by said first information and a second transmission symbol stream by said second information [selectively]; and

symmetrical transmission symbol stream generating means [in which a] , wherein said transmission symbol stream based on said first information and generated by said [first] modulation means is a symmetrical transmission symbol stream that is expanded symmetrically on a frequency axis with a predetermined frequency position as a reference.

--7. (Amended) The multi-carrier signal transmission apparatus according to claim 6, wherein [with] using a center symbol at said reference frequency position of [the] said transmission symbol stream as [the] a center[,] said [first] modulation means expands [respective] symbols of said transmission symbol stream other than [that] said center symbol symmetrically on [the] said frequency axis.

--8. (Amended) A multi-carrier signal reception apparatus for receiving [the] first information necessary for [gaining synchronism of] synchronizing a transmission signal and second information [which is the other information], said apparatus comprising:

memory means for [memorizing] storing said first information;

a correlator for [gaining correlation between the] correlating a received symbol stream and [the] first information of one of a real number portion [or] and an imaginary number portion [memorized] stored in said memory means; and

determining means for detecting a synchronism depending on a peak position of a correlation value of said correlator.

--9. (Amended) The multi-carrier signal reception apparatus according to claim 8, wherein said memory means

[memorizes only any] stores one of [the] said real number portion and [the] said imaginary number portion [in] of said first information.--